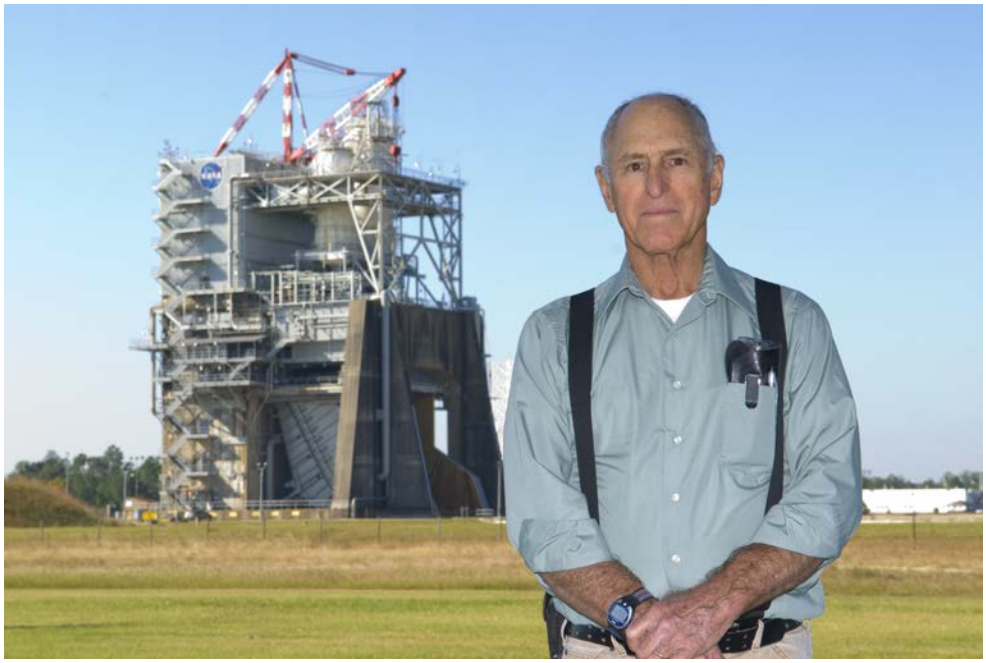
An Oral History

with

Roberto Van Peski



John C. Stennis Space Center
History Project

Interviewer: Daphne Alford

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This is an interview by the Stennis Space Center History Office. The purpose of this interview is to document the story of key personnel during the Apollo and the Space Shuttle Main Engine programs at Stennis. The interview is with Roberto Van Peski and is taking place on June 29, 2009. The interviewer is Daphne Alford.

Roberto Van Peski: My name is Roberto F. Van Peski. I work for Jacobs Technology, and I'm a senior associate mechanical engineer.

Daphne Alford: How did you get in that field—mechanical engineering?

Roberto Van Peski: I just worked into it. I don't have an engineering degree. I started at this test site in 1964, working construction on the S-1C Test Stand, which is referred to as the B-1/B-2 or the Dual Position Test Stand B. I started as an iron worker on the concrete reinforcement portion of the construction phase and stayed with it through level 11 where the steel super structure of the test stand began. I then became a structural iron worker and worked through the completion of the B-2 and center pier portions. Working on a union permit and with construction work dwindling, I was laid off and lucky enough to obtain employment with the General Electric [GE] Co. GE had the initial site contract and established operational methods that live on to this day. I began in the spring of 1966 as a material expediter for the mechanical shop and subsequently moved into the mechanical shop as an apprentice. During those early years, we worked on all mechanical systems site wide and worked in multi-craft settings. I was laid-off in December of 1970 at the end of the Apollo Program. I was called back on July 5, 1972, to be a part of what was known as the Space Shuttle Reactivation Crew. We reactivated all mechanical systems on-site to support the new Space Shuttle Program.

Daphne Alford: What led you here to Stennis?

Roberto Van Peski: It just so happened that I ran into the president of Napoleon Steel during the spring of 1964 while doing some part-time work in Bay St. Louis. He asked me if I had ever done iron work. I told him I hadn't, but that I'd love to get into it. The following day I was working at this test site.

Daphne Alford: Where are you from?

Roberto Van Peski: I was born in the little town of Golfito on the Pacific Coast of Costa Rica. My father worked for the United Fruit Company, the Chiquita brand banana company. He met my mother in the Republic of Panama. I spent my first 15 years of life

in four different Central American nations—Costa Rica [nine years], Guatemala [four years], Honduras [two years]—and we visited family frequently in Panama. I came to St. Stanislaus High School in Bay St. Louis, where I was a boarder. I joined the United States Army in February 1960 and was honorably discharged in 1963. I spent the last 11 months of military service with the 82nd Airborne Division in Fort Bragg, N.C. I became a naturalized citizen of the United States of America on Sept. 3, 1964.

Daphne Alford: How was it working for the Apollo Program? What was it like?

Roberto Van Peski: It was very intense, of course, all of the systems were new and we had to take all the kinks out of them. The mechanical systems worked quite well in support of the test program. It was a real pleasure to work at this test site during that time period because it was part of a national goal to set a man on the moon.

Daphne Alford: So you had a lot of deadlines to meet?

Roberto Van Peski: Yes, we did. The objective has always been to meet test dates. If there was a scheduled test, we had to make sure that all mechanical systems were operational and ready to support that particular test. That became a critical item.

Daphne Alford: What was your role during the Apollo Program?

Roberto Van Peski: I was a low-level mechanic, having started as an apprentice. During that time, I was also attending night school at Jeff Davis Junior College. My studies combined with the aid provided by helpful craftsmen and engineers enabled me to learn the intricacies of the mechanical systems on-site.

Daphne Alford: Did the on-the-job training help you with your education?

Roberto Van Peski: Oh, yes, it sure did! I quickly made the connection that existed between college subjects and the mechanical work I performed. With two semesters of English grammar and an additional two semesters of English literature behind me, I became quite good at writing; this alone has been a great aid in the preparation of written procedures and in providing written instructions on work documents for technicians.

Daphne Alford: What did you do during the beginning of the Space Shuttle Program?

Roberto Van Peski: I began as an employee of Global Associates, the company that had been awarded the site contract during that time period. We brought all systems online that were previously used in the Apollo Program and improved on them to support the Space Shuttle Program. The generators and the pumps at that high-pressure industrial water [HPIW] plant were reworked and the compressors at the High-Pressure Gas Facility were refurbished. All pneumatic, cryogenic and hydraulic systems were upgraded.

Once Rockwell International, Space Division began operations on the B-2 Test Stand, I was hired as a mechanical technician in support the Main Propulsion Test Article

[MPTA]. I subsequently joined the Rocketdyne Division in the A-Test Complex as a propulsion test mechanic in support of the SSME [space shuttle main engine] single-engine test program. I remained employed with Rocketdyne until late 1986 when I was fired. I was immediately called back to work with Pan Am World Services as an associate engineer working on the test facilities. I was deeply involved in the modifications that prepared the B-1 Test Stand for SSME single engine testing.

Daphne Alford: Do you enjoy your work?

Roberto Van Peski: I sure do. I'm now 68 years of age and I may work another year or two, God willing. Although I'm ready to retire, I also enjoy working in the A/B Test Complex. Through my work, I have developed wonderful relationships with many professional and craft personnel and all this has enriched my life greatly. I'm looking forward to the A-3 Test Stand, of course.

Daphne Alford: So you have worked at all the test stands?

Roberto Van Peski: Oh yes, A-1, A-2, B-1 and B-2 supporting the Apollo and the space shuttle test programs, and today supporting the RS-68 test program on the B-1 Test Stand.

Daphne Alford: Has this been a challenging career for you?

Roberto Van Peski: Working at Stennis Space Center [SSC] has been challenging, exciting and rewarding. I have become intimately familiar with complex mechanical systems. When considering that I have walked every foot of the high-pressure industrial piping distribution system, entered every cryogenic propellant vessel, and stood on top of every derrick mast, I marvel at the opportunities I have been given and am so grateful for all this of which I have been a part.

Daphne Alford: What are you doing now with the transition to the Constellation Program?

Roberto Van Peski: We continue supporting the RS-68 test program on the B-1 Test Stand. On the B-2 Test Stand, we are in the process of installing refurbished water supply valves in the deflector valve gallery, no small feat when one considers that each main valve weighs 6 tons. The A-1 Test Stand modifications continue at a brisk pace. The A-2 Test Stand is being mothballed. We now have a good opportunity to upgrade or replace old mechanical systems in preparation for future test programs.

Daphne Alford: What was your first impression of the test site? When you first came here, what did you think?

Roberto Van Peski: When I first started out here, this was just a big muddy mess. My place of work was the dual position Test Stand B. It was a big hole in the ground. If I'm not mistaken, it was 90 feet deep. It looked like it was deeper than that. One of the

biggest challenges was keeping water out of the bottom of the pit while pile driving was in progress. Water pumps were operated around the clock. When I began, the last of the pilings were being driven into the ground. The foundation of the B Test Stand started out with the placement of re-enforcement steel on top of the pilings. Initially, No. 18 rods – 3½" diameter steel rods – some 21 feet long were used. Mats were formed with the steel rods, and stacked on one top of the other. While we were building ever upward with the steel rods, carpenters were building forms around the perimeter to receive the concrete pours. This process continued until the last of the concrete was poured through level 11.

Daphne Alford: About how many people were involved in this project?

Roberto Van Peski: There were a lot of people, and many companies involved. I do not know the exact number of people, but it would be safe to say there were some 2000 workers on the test site at the height of the construction period.

Daphne Alford: Is there any significant event out here that you vividly can remember and talk about?

Roberto Van Peski: There are many significant events that come to mind; however, the most significant has to be the first rocket motor test. I was employed by General Electric Co. at the time, and I worked overnight in a support capacity as an expediter. I didn't see the test from my work station in Building 2201; I just heard it and could see the fiery discharge lighting up the sky.

Daphne Alford: Can you describe it?

Roberto Van Peski: It was more like a fiery eruption, sounding like a giant freight train at the outset and then intensifying into a mighty roar. The reverberations were felt through the air. The ground was shaking beneath my feet. The bright flames seemed to be pouring into the sky above, and were intermittently subdued by the embrace of vapor clouds that were continuously building and climbing ever higher. The effect was an intense flickering of bright light as the vapor clouds engulfed the flames and then relented and moved on.

Daphne Alford: How long did that last?

Roberto Van Peski: To tell you the truth, I don't remember. It was not a significantly long test, but it was impressive. One of the problems that we discovered during this time period is that depending upon the cloud cover, the sound waves [acoustic energy] created by the rocket engines could be destructive. As I understand the problem, a low cloud cover will trap the sound waves between the ground and the clouds; as a result the noise created cannot dissipate into the upper atmosphere, and the acoustic energy intensifies and travels farther. Early on I heard stories of glass windows shattering in homes and businesses as far away as Picayune and Bay St. Louis. I can remember hearing the tests in Bay St. Louis and seeing the windows rattle. The damage created by the engine tests led to the installation of the acoustic sounding horn. Similar to a fog horn, the unit on-

site is mounted on a tower and rotates 360º. Prior to a rocket motor test, personnel would energize the horn and monitor the acoustic energy emitted over a measured distance to ensure that the planned test could be conducted safely.

Daphne Alford: What was the name of the site when you started?

Roberto Van Peski: When I first started out here, it was MTO, Mississippi Test Operations I believe. Then it became MTF, if I'm not mistaken, Mississippi Test Facility. In later years, the name was changed to National Space Technology Laboratories and later on it was dedicated to Senator Stennis and became known as John C. Stennis Space Center.

Daphne Alford: Did you ever meet Senator Stennis?

Roberto Van Peski: Never did, I sure didn't.

Daphne Alford: Tell me a little more about what's going on now?

Roberto Van Peski: What we have going on right now is the end of the Space Shuttle Program. We're getting ready for the next generation of rocket motors. The A-3 Test Stand is under construction, and the A-1 Test Stand is being refurbished at this time. There's some preliminary work going on at the B-2 side and the RS-68 engine testing continues on the B-1 Test Stand.

Daphne Alford: Are you excited about the future?

Roberto Van Peski: Why sure I'm excited, especially for the people who are out here and who will carry on a tradition of excellence in rocket motor testing. I probably will not be a part of it, but I look forward to coming out here and observing activities. I do have a keen interest in what the future holds.

Daphne Alford: How does it feel to be a part of the Apollo Program, the Space Shuttle Program and now the Constellation Program? You've been through three different programs.

Roberto Van Peski: I feel like I've really been blessed by God. I've been able to contribute because I have become so familiar with all of the systems. I've been rewarded well for my contributions, and I couldn't be happier. I've educated two daughters. My younger one is an electrical engineer, working for Lockheed Corporation in California. My other daughter is director of retail sales for a large corporation. I couldn't be happier. I'm in good enough health, I believe, to continue going for a while. That is one thing this job does require – that one have stamina – especially good health to climb high elevations or to go down into confined spaces. Personnel are required to maintain a certain number of certifications. From time to time, personnel are trained in the use of special safety equipment required for a specific task. For example, personnel were certified in the use of the self-contained breathing apparatus [SCBA] to conduct the internal inspections of

the underground high-pressure industrial water distribution system [66", 75" & 96" piping], amounting to approximately 8,150 linear feet of piping.

Daphne Alford: What is a typical day like for you?

Roberto Van Peski: I come in early in the morning. I find out what's happened; where we are with all our systems; what the test schedule is; and we're always ensuring that all our mechanical systems are ready to support the next scheduled test, regardless which test stand it may be. At this time, we are in the process of removing and replacing a high-pressure industrial water valve at the B-1. Unfortunately, the B-1 has delayed testing. Had it not been for that, we would have worked this past weekend to get that valve ready to support this test. At SSC there is always a challenge. For example, removal and replacement of the B-1 horizontally oriented valve requires installation of a 6-ton trolley & chain hoist. As was our luck on this particular task, the chain hoist malfunctioned under load. Mechanical devices will break down; as a result, there must always be an alternate plan to get work done, and we have become very adept at doing just that.

Daphne Alford: How large is your department?

Roberto Van Peski: There are some 10 engineers and six lead technicians assigned to Unit 7013.

Daphne Alford: Your world has always been around test stands. How do you look at Stennis from that angle?

Roberto Van Peski: We have a critical need for support organizations. We work very closely with the component engineers in the Fluid Component Shop because they purchase and repair our valves. They also ensure that the components we use are suitable for a particular application. Warehouse and logistics personnel are invaluable in providing needed material and in locating alternate items suitable for our needs in the field. The laboratory personnel in the gas analysis lab and the measurement standards and calibration lab are critical to our operations. All gas samples are analyzed in the laboratory and sensitive equipment needed for our activities are calibrated by lab personnel. We depend greatly on the machine, plumbing, heavy equipment and weld shops. There's a great relationship between the mechanical/electrical group and the professional and craft personnel in the different support organizations. These are wonderful people who enable us to maintain test support systems.

Daphne Alford: Any interesting well-known people you have met?

Roberto Van Peski: My work at Stennis Space Center has not brought me in personal contact with any of the well-known aerospace personalities. Having said that, there are some remarkable professional engineers for whom or with whom I have worked closely: Messrs. Steve Dick, Patrick Mooney, Doug McLaughlin are retired NASA engineers who were great mentors. Mr. Al Busche, retired, became a legend at SSC as a field engineer. Mr. Greg Ames, deceased, was recognized as one of the most outstanding field engineers

and a surveyor without equal. Mr. Rick Ross has provided invaluable assistance in solving metallurgical problems, in analyzing gas problems and conducting failure analyses. Mr. Duane "Duke" Donner, current lead of the Component Engineering Group and Mr. Bryant Quave, retired, are individuals who have contributed much to the development of our fluid flow systems.

I would be remiss if I were to leave out Mr. Don Pellow, a registered professional engineer of Pellow Engineering Services, author, professional speaker and patent holder of rotation-resistant wire rope. Don personally laid out the plan for the restoration of the main derrick on the B-Test Stand after it had been two-blocked. With Don's assistance we were able to follow up on a botched cable replacement job performed by construction contractors and successfully replaced all the wire rope on the derrick using our own mechanical technicians. Mr. Pellow later returned to SSC and provided rigging certification training to SSC personnel. Don's rigging manuals are used today by SSC personnel.
There are many other outstanding individuals worthy of mention, but space and time constraints force me to leave them out.

Daphne Alford: Is there anything you would like to do or accomplish while you are here in the mechanical engineering area?

Roberto Van Peski: I would like to see an upgrade [to] our HPIW piping system and the procurement of new valves. During the Apollo Program and the early days of space shuttle testing, the high-pressure industrial water was obtained from the underground aquifer. A rocket motor test consumes between 7 and 12 million gallons of water. This was not an environmentally sound way of doing business because the underground aquifer was being depleted. High-pressure industrial water is now pumped out of the canal. The environmental problem was resolved but the canal water – described as brackish – created a serious corrosion problem in the carbon steel piping. Piping failures in the form of ruptures have become common place. Funding has been made available for the purchase of some new water valves and it appears as if funding will be provided for new piping in the near future.

Daphne Alford: What do you foresee for Stennis for the future?

Roberto Van Peski: I think the future, from what I've heard, looks bright, especially with what NASA has planned for future space exploration. What Dr. von Braun said decades ago holds true today: "It doesn't make any difference where you go in space, whether it be to the moon or beyond, you first must come through Mississippi."

Daphne Alford: We have talked about the past, present and future, is there anything I didn't ask you can think of that you would like to talk about?

Roberto Van Peski: Not really. You have done a good job in covering everything; unless you have additional questions, I think we are done.

Daphne Alford: You did well.

(End of Interview)